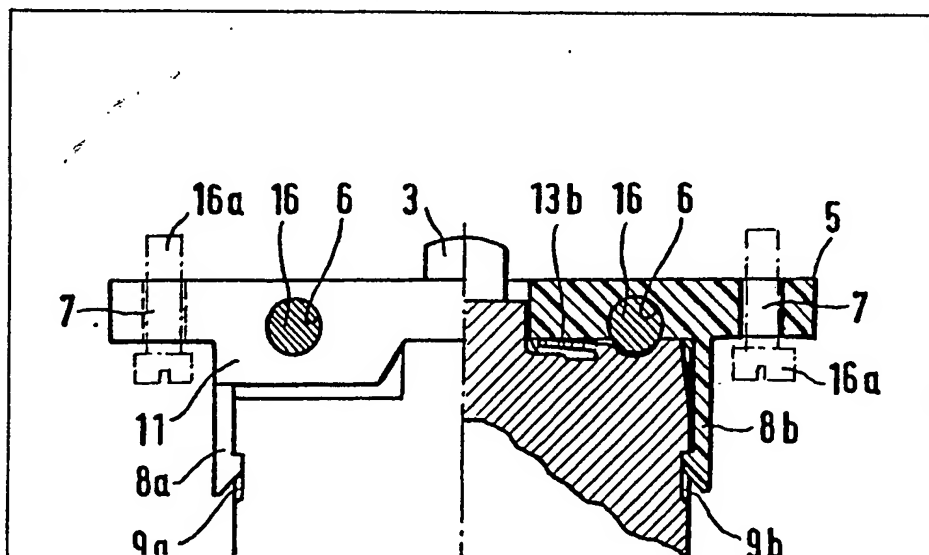


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(58) Field of search  
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(54) Switch with a case provided with  
an attaching device

(57) A switch comprises an attaching  
device including an adaptor (5) fitted  
onto the front of its case and joined to  
the case by resilient locking means (8a,  
8b), the adaptor being provided with  
holes (6, 7) at the sides or in front, to  
receive screws or bolts (16 or 16a) for  
mounting the switch.



ERRATUM

SPECIFICATION No. 2108318 A

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The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.

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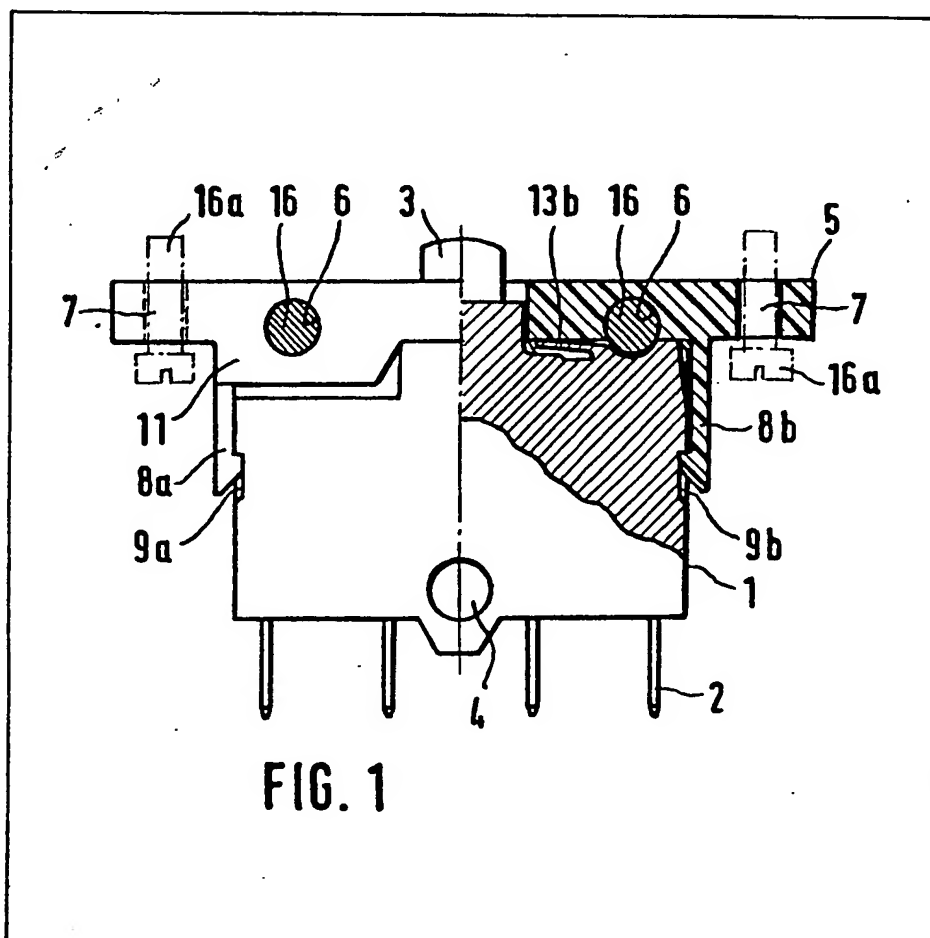
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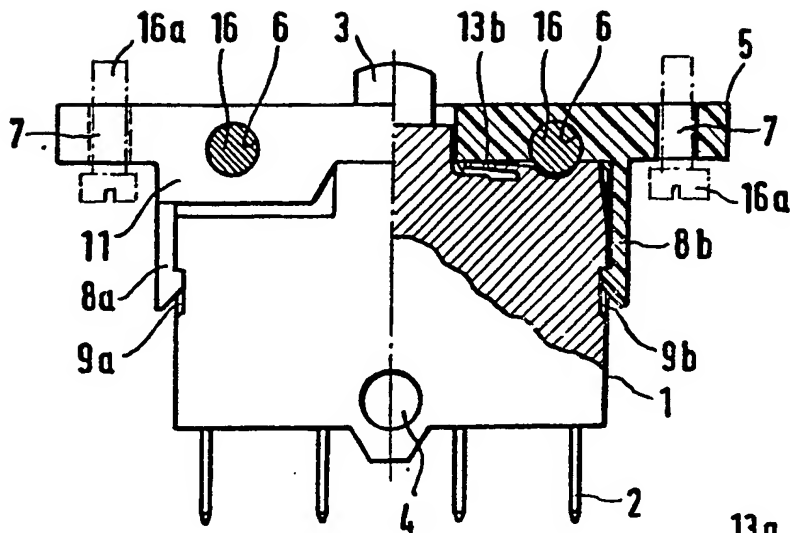


FIG. 1

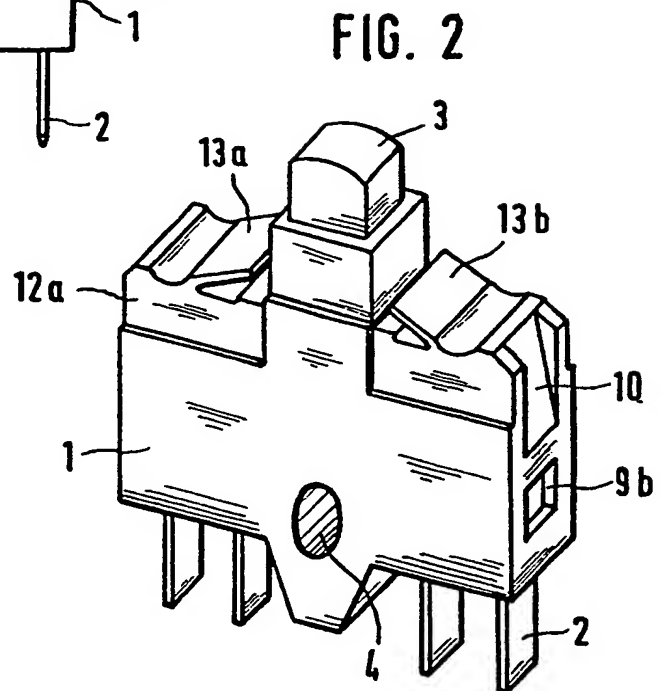


FIG. 2

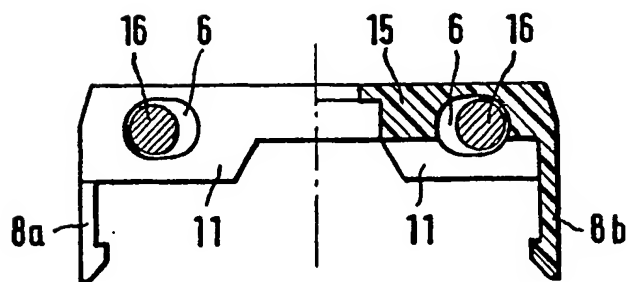


FIG. 4

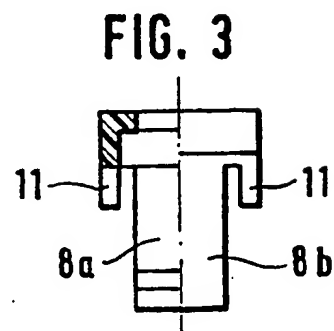


FIG. 3

## SPECIFICATION

**Switch with a case provided with an attracting device**

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The invention relates to a switch, particularly a quick or snap action switch, with a case provided with an attaching device. In known switches the attaching device usually consists of two holes extending through the switch case, for fixing the switch either in front or laterally by means of screws, bolts

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tending through the switch case, for fixing the switch either in front or laterally by means of screws, bolts extending through it or rivets.

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A quick action switch is known e.g. from DE-OS 26 57 231, containing a hole in each of two lugs moulded laterally onto the case for fixing the switch in front. For quick action switches of certain constructions, DIN standard 41 635 further prescribes the position of holes extending through the broad side of the switch case for fixing such switches

20

laterally.

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These two methods of fastening may either be provided for in a single construction, with holes both for front and lateral fixing, in which case the switches become unnecessarily large for installation with exclusively lateral fixing, or all models of switch have to be prepared in two different constructions, corresponding to the two different fastening methods.

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Furthermore, an arrangement fixed by screws in front is inconvenient to mount and service. The same applies when many quick action switches are mounted, laterally aligned, on a common supporting bolt, as in the case of cam controls. If a faulty switch has to be exchanged, all the switches preceding it also have to be pulled off the supporting bolt, and for this purpose some of the cable connections have to be detached too.

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The invention therefore aims to provide a switch of the above type, which can be mounted and if necessary exchanged easily and possibly without any tool, with both types of fastening.

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According to the invention there is provided a switch including a case, a device for attaching or mounting the switch case in an operative position, which attaching device has an adaptor which can be pushed onto the front of the switch case and joined to the switch case by resilient locking means, the adaptor being provided with holes to receive fixing means for mounting the switch.

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This arrangement has the advantage that only the adaptor for front and/or side fastening of the switch need be invested in. In view of the fact that any switch range usually includes many models which differ in respect to connecting parts, contact material, contact power etc. in order to cover the various fields of application, the proposed fastening by means of an adaptor leads to a considerable tightening up and reduction of the model programme, since the various models need to be manufactured only in one case construction and storage is nearly halved.

50

A further advantage is that, where required, the adaptor can be mounted first at the place where the

switch is to be installed, and the switch need then only be pushed onto the adaptor until the locking connection is established; no tools are required for this purpose. But above all a faulty switch within a bunch of laterally aligned switches can be pulled out and exchanged independently of all the others, by releasing the locking connection.

65

70 A miniature contactor is indeed already known, for optional screw fastening or fastening by snapping onto a DIN supporting rail or by means of an adaptor, but here the normal screw fastening is used to join the contactor to the adaptor, while the adaptor itself does not contain any holes for optional front and/or lateral fixing by means of screws or bolts.

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At least some of the holes may extend through the adaptor at right angles to the broad side of the switch case when the adaptor is pushed onto the front of the switch case. This provides holes for lateral fastening.

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Additionally or alternatively the adaptor may extend beyond the narrow sides of the switch case at both sides and at least some of the holes may be located by the two overlapping parts of the adaptor and parallel with the operating direction of a sliding knob for operating the switch. This provides holes for front fastening.

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90 Preferably the resilient locking means comprises two blades with a spring action, moulded integrally on to the adaptor, for engaging in recesses provided on opposite narrow sides of the switch case. This makes it easy to release the switch from the adaptor by raising one of the two readily accessible resilient blades, e.g. by means of a screwdriver.

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Advantageously the narrow sides of the switch case are provided with guiding grooves for the resilient blades of the adaptor. These guide grooves facilitate the fitting of the adaptor onto the switch, or conversely the switch onto the already mounted adaptor.

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Conveniently the adaptor has reinforcing ribs which operatively partially overlap the two opposed broad sides of the switch case, complementary recesses being provided in the switch case for receiving the reinforcing ribs. This is to connect the adaptor particularly rigidly to the switch.

105

Preferably the switch case has resilient lips at the front, for bearing resiliently against the underside of the adaptor when the latter is pushed on to the front of the switch case. These lips ensure that, even without narrow manufacturing tolerances, no slack is left between the switch and the adaptor.

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For a better understanding of the present invention, and to show how the same may be carried into effect, reference will now be made, by way of example to the accompanying drawings, in which:—

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Figure 1 is a part sectional side elevation of a switch of the invention with an adaptor shown fitted onto it,

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Figure 2 is a perspective view of the switch of Figure 1 without the adaptor,

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Figure 3 is a part sectional side elevation of an

adaptor according to another embodiment of the invention, and

Figure 4 is a part sectional plan view of the narrow side of the adaptor of Figure 1.

- 5 Figures 1 and 2 show a switch according to the invention with a case 1, connecting lugs 2, a sliding knob 3 to operate it and a lateral hole 4 extending through it. The hole 4 may be used as an alternative or in addition to the fastening method proposed here, utilising an adaptor 5.

Referring to Figure 1, the adaptor 5 contains two holes 6 for lateral fastening, namely to receive the screws or mounting bolts 16 shown in cross-section, and two holes 7 for fastening in front by means of screws 16a. The adaptor 5 is joined to the switch case 1 by two integral lateral blades 8a, 8b which have hooked heads. When the adaptor is pushed onto the switch case, these heads are first taken over guiding grooves 10 (see Figure 2) and then engaged in recesses 9a, 9b at the narrow sides of the switch case 1.

As a means of improving the positive connection with the switch case 1 and increasing the moment of resistance in the region of the supporting bolts 16, the adaptor 5 is provided with lateral reinforcing ribs 11 (see Figures 1 and 3), which engage in complementary recesses 12a, 12b (see Figure 2) in the switch case 1. In addition the switch case 1 has resilient lips 13a, 13b at the front. These press against the underside of the fitted adaptor (see 13b in Figure 1), thereby taking up any slack between the switch and the adaptor.

Figure 4 shows an adaptor 5 of reduced overall length for exclusively lateral mounting. The holes 6 are in the form of slots, so that one and the same adaptor can be used for different standard spacings of the supporting bolts 16.

#### CLAIMS

1. A switch including a case, a device for attaching or mounting the switch case in an operative position, which attaching device has an adaptor which can be pushed onto the front of the switch case and joined to the switch case by resilient locking means, the adaptor being provided with holes to receive fixing means for mounting the switch.

2. A switch according to claim 1, in which at least some of the holes extend through the adaptor at right angles to the broad side of the switch case when the adaptor is pushed onto the front of the switch case.

3. A switch according to claim 1 or claim 2, in which the adaptor extends beyond the narrow sides of the switch case at both sides, and at least some of the holes are located in the two overlapping parts of the adaptor and parallel with the operating direction of a sliding knob for operating the switch.

4. A switch according to any one of claims 1 to 3, in which the resilient locking means comprise two blades with a spring action, moulded integrally onto the adaptor, for engaging in recesses provided on opposite narrow sides of the switch case.

5. A switch according to claim 4, in which the narrow sides of the switch case are provided with guiding grooves for the resilient blades of the

adaptor.

6. A switch according to any one of claims 1 to 5, in which the adaptor has reinforcing ribs which operatively partially overlap the two opposed broad sides of the switch case, complementary recesses being provided in the switch case for receiving the reinforcing ribs.

7. A switch according to any one of claims 1 to 6, in which the switch case has resilient lips at the front, for bearing resiliently against the underside of the adaptor when the latter is pushed onto the front of the switch case.

8. A switch substantially as hereinbefore described with reference to Figures 1 to 3 as modified or not by Figure 4 of the accompanying drawings.

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